The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1-5.   (Cancelled).

6.   (Currently Amended) A mixer circuit comprising:

an amplification unit having an input terminal and an output terminal, and amplifying a signal applied to the input terminal to output the signal to the output terminal;

a mixing unit having first, second, and third input terminals, first and second output terminals, the third input terminal being connected to the output terminal of the amplification unit, the mixing unit mixing signals respectively applied to the first and second input terminals with a signal supplied to the third input terminal, to output respectively the mixed signals to the first and second output terminals, the mixing unit being arranged between a supply voltage and the amplification unit; and

a current source being configured to provide a specific quantity of current to the third input terminal of the mixing unit, and being connected to the output terminal of the amplification unit and the third input terminal of the mixing unit[[,]].

7.   (Previously Presented)   The mixer circuit according to claim 6, wherein the amplification unit includes,

an amplification element having a first terminal that forms the input terminal, a second terminal that forms the output terminal and a third terminal, wherein the quantity and

direction of current flowing from the second terminal to the third terminal are varied on the

basis of the level of a voltage applied to the first terminal; and

a degeneration impedance connected between the third terminal of the amplification

element and a voltage source.

8.   (Original)   The mixer circuit according to claim 7, wherein the

amplification unit further includes a capacitor connected between the first and second

terminals of the amplification element.

9.   (Previously Presented)   The mixer circuit according to claim 6, wherein

the mixing unit includes,

a first amplification element having a first terminal that forms the first input terminal,

a second terminal that forms the first output terminal and a third terminal, wherein the

quantity and direction of current flowing from the second terminal to the third terminal are

varied on the basis of the level of a voltage applied to the first terminal;

a second amplification element having a first terminal that forms the second input

terminal, a second terminal that forms the second output terminal, and a third terminal

connected to the third terminal of the first amplification element to form the third input

terminal, wherein the quantity and direction of current flowing from the second terminal to

the third terminal are varied on the basis of the level of the voltage applied to the first

terminal; and

first and second load impedances respectively connected between the second

terminals of the first and second amplification elements and a voltage source.

10-13. (Cancelled).

14. (Previously Presented) The mixer circuit according to claim 6, wherein the quantity of current being provided to the third input terminal of the mixing unit being equal to the specific quantity of current provided by the current source and a quantity of current provided by the amplification unit.

15. (Currently Amended) The mixer circuit according to claim 6, wherein the mixing unit being connected to the amplification unit solely by the third input terminal being connected to the output terminal of the amplification unit.

16. (New) The mixer circuit according to claim 6, wherein the mixing circuit is configured to mix at least two input signals to output a signal having a frequency corresponding to the difference between the mixed at least two signals or the sum of the at least two signals.

17. (New) The mixer circuit according to claim 6, wherein the input signal applied to the input terminal of the amplification unit is mixed with a differential signal applied to the first and second input terminals of the mixing unit.